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10/675,197	09/30/2003	Robert Armitano	112056-0110	5686

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EXAMINER	
LOVEL, KIMBERLY M	
ART UNIT	**PAPER NUMBER**
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/675,197	ARMITANO, ROBERT	
	Examiner	Art Unit	
	KIMBERLY LOVEL	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23,34-43 and 47-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23, 34-43 and 47-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This communication is in response to the Amendment filed 31 January 2008.

2. Claims 1-23, 30, 33-43, 47 and 48 are currently pending. In the Amendment filed 31 January 2008, claims 1, 10, 11, 19, 34, 35 and 47 are amended; claims 24-33 and 44-46 are canceled; and claim 49 is new. This action is made Non-Final due to the introduction of 35 USC 101 rejections.

3. The rejections of claims 1-30, 33-44 and 46-48 are withdrawn as necessitated by amendment.

Claim Objections

4. **Claims 1, 11 and 19** are objected to because of the following informalities:

Claim 1 recites "storing ***in*** the second content in the cache" in line 15. It seems as if "in" should be deleted.

Claim 11 recites "storing ***in*** the second content in the cache" in line 16. It seems as if "in" should be deleted.

Claim 19 recites "storing ***in*** the first content in a cache" in line 8. It seems as if "in" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The rejections of **claims 36-43 and 44-48** under 35 U.S.C. 112, second paragraph are withdrawn as necessitated by amendment.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claim 49** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to disclose determining if an updated copy of the first file is available and flushing the first file from the cache.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. **Claims 10-18, 34-35 and 49** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

10. **Claim 10** is directed towards a system comprising a content comparator. However, it is noted that the use of the word “system” does not inherently mean that the claim is directed towards a machine or article of manufacture. Each component of the claimed system can be interpreted as comprising entirely of software per se according

to one of ordinary skill in the art. Therefore, the claim language fails to provide the necessary hardware required for the claim to fall within the statutory category of a system.

According to MPEP 2106:

> The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.
>
> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)
>
> Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

11. **Claim 11** is directed towards an apparatus. However, it is noted that the use of the word "apparatus" does not inherently mean that the claim is directed towards a machine or article of manufacture. Each means of the claimed apparatus can be interpreted as comprising entirely of software per se according to one of ordinary skill in the art. Therefore, the claim language fails to provide the necessary hardware required for the claim to fall within the statutory category of an apparatus.

According to MPEP 2106:

> The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.
>
> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)
>
> Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Since **claims 12-18** are dependent on claim 11 and fail to overcome the deficiencies of claim 11, the claims are rejected on the same grounds as claim 11.

12. **Claim 34** is directed towards a device. However, it is noted that the use of the word "device" does not inherently mean that the claim is directed towards a machine or article of manufacture. Each means of the claimed device can be interpreted as comprising entirely of software per se according to one of ordinary skill in the art. Therefore, the claim language fails to provide the necessary hardware required for the claim to fall within the statutory category of a device.

According to MPEP 2106:

> The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical

> compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.
>
> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)
>
> Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Since **claim 35** is dependent on claim 34 and fail to overcome the deficiencies of claim 34, the claim is rejected on the same grounds as claim 34.

13. **Claim 49** is directed towards a system. However, it is noted that the use of the word "system" does not inherently mean that the claim is directed towards a machine or article of manufacture. Each component of the claimed system can be interpreted as comprising entirely of software per se according to one of ordinary skill in the art. Therefore, the claim language fails to provide the necessary hardware required for the claim to fall within the statutory category of a system.

According to MPEP 2106:

> The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)
>
> Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

14. To allow for compact prosecution, the examiner will apply prior art to these claims as best understood, with the assumption that applicant will amend to overcome the stated 101 rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1-4, 10-13, 19, 20, 34-38, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al (hereafter Brunk) in view of US PGPub 2004/0063449 to Fostick (hereafter Fostick).

Referring to claim 1, Brunk discloses a method for comparing a first content with a second content to determine whether the contents are identical, comprising:

computing [calculated] a first signature of the first content and a second signature of the second content, wherein the first signature has one or more unique protocol markers that are generated from transformation during protocol encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]); and

identifying the protocol encoding the first content and the second content (see [0062] and [0063]);

comparing [a database query is executed to match signatures] the one or more unique protocol markers of the first computed signature with the one or more unique protocol markers the second signature to determine whether the first content is identical to the second content [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing the first content in a cache on a local storage system; requesting a second content from a remote storage system, wherein the second content is stored in a network storage arrangement on the remote storage system; storing in the second content in the cache on the local storage system, in response to determining the first content is not identical to the second content. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of storing the first content [new multimedia content] in a cache on a local storage system [local cache 50] (see [0027]); requesting a second content from a remote storage system, wherein the second content

is stored in a network storage arrangement on the remote storage system (see [0030]-[0031]); comparison of the content protocol markers [reference] to determine whether the first content is identical to the second content (see [0028]); and storing in the second content in the cache on the local storage system, in response to determining the first content is not identical to the second content (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 2, the combination of Brunk and Fostick (hereafter Brunk/Fostick) discloses the method of claim 1 further comprising the steps of:

selecting a first set of data segments from the first content and a second set of data segments from the second content (Brunk: see [0022] and [0023]); and

using the selected first set of data segments and the second set of data segments to compute the first signature and the second signature (Brunk: see [0026], lines 1-6).

Referring to claim 3, Brunk/Fostick discloses the method of claim 2 wherein the selected first set of data segments and second set of data segments comprise locations associated with one or more protocol markers (Brunk: see [0022]-[0024]).

Referring to claim 4, Brunk/Fostick discloses the method of claim 1 wherein the step of computing the signature of the first content and the signature of the second content further comprises the steps of:

identifying one or more protocol markers associated with the first content (Brunk: see [0026]); and

identifying one or more protocol markers associated with the second content (Brunk: see [0026]).

Referring to claim 10, Brunk discloses a system to compare a first content with a second content comprising:

a content comparator (see [0083]);

a protocol identification module configured to identify a first protocol associated with the first content and a second protocol associated with the second content (see [0062] and [0063]);

a plurality of data segmentation modules configured to select a set of data segments from each of the first content and the second content (Brunk: see [0022]-[0023]),

a plurality of signature computation modules configured to generate [calculated] a first signature of the first content and a second signature of the second content, wherein the first signature has one or more unique protocol markers that are generated from transformation during protocol encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]);

a signature comparison module configured to compare [a database query is executed to match signatures] the first signature with the second signature [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of a content comparator executing on a local storage system; wherein the second content is stored on a remote storage system, where the remote storage system stores the second content and other data in a network storage arrangement, and a cache on the local storage system, the cache configured to store the first content and to store the second content if the signature comparison module determines the first signature of the first content and the second signature of the second content do not match. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of a content comparator executing on a local storage system (see [0028]); wherein the second content is stored on a remote storage system, where the remote storage system stores the second content and other data in a network storage arrangement (see [0028]), and a cache on the local storage system [local cache 50] (see [0027]), the cache configured to store the first content and to store the second content if the signature comparison module determines the first signature of the first content and the second signature of the second content do not match (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease

cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 11, Brunk discloses an apparatus for comparing a first content with a second content, the apparatus comprising:

means for identifying a protocol encoding the first content and the second content (see [0062] and [0063]);

means for selecting a set of data segments from the first content and the second content (see [0022] and [0023]);

means for computing [calculated] a signature of the first content and a signature of the second content, wherein the first signature has one or more unique protocol markers that are generated from transformation during protocol encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]); and

means for comparing [a database query is executed to match signatures] the computed signature of the first content with the computed signature of the second content [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of means for storing the first content in a cache on a local storage system; means for requesting a second content from a remote storage system, wherein the second content is stored in a network storage arrangement on the remote storage system; means for storing in the

second content in the cache on the local storage system, in response to determining the first content is not identical to the second content. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of means for storing the first content [new multimedia content] in a cache on a local storage system [local cache 50] (see [0027]); means for requesting a second content from a remote storage system, wherein the second content is stored in a network storage arrangement on the remote storage system (see [0030]-[0031]); means for comparison of the content protocol markers [reference] to determine whether the first content is identical to the second content (see [0028]); and means for storing in the second content in the cache on the local storage system, in response to determining the first content is not identical to the second content (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 12, Brunk/Fostick discloses the apparatus of claim 11 wherein the selected data segments comprises locations associated with one or more protocol markers (Brunk: see [0022]-[0024]).

Referring to claim 13, Brunk/Fostick discloses the apparatus of claim 11 wherein the means for computing the signature of the first content and the signature of the second content further comprises the steps of:

means for identifying one or more protocol markers associated with the first content (Brunk: see [0026]); and

means for identifying one or more protocol markers associated with the second content (Brunk: see [0026]).

Referring to claim 19, Brunk discloses a method to compare a first content with a second content in a network storage environment, comprising:

receiving the first content [input signal] (see [0022], lines 2-3);

computing [calculated] a signature of the first content, wherein the signature of the first content has a set of protocol markers that are generated from transformation during protocol encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] the computed signature of the first content with a signature of the second content [recalculated signature] (see [0083]) wherein the signature of the second content has a set of protocol markers that are generated from transformation during protocol encoding [compressed, transformed] (see [0031]); and

identifying, if the computed signature of the first content matches the signature of the second content, that the first content is identical to the second content [a database query is executed to match signatures] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of receiving the first content from a remote storage system, where the remote storage system stores the first content and other data in a network area storage arrangement; storing the first content in a cache on a local storage system; transmitting a signature of a second content followed by the second content from a remote storage system to the local storage system, wherein the second content is stored in a network storage arrangement on the remote storage system; and terminating transmission of the second content, in response to identifying the first content is identical to the second content. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of receiving the first content from a remote storage system, where the remote storage system stores the first content and other data in a network area storage arrangement (see [0030] and [0031]); storing the first content [new multimedia content] in a cache on a local storage system [local cache 50] (see [0027]); transmitting a signature of a second content followed by the second content from a remote storage system to the local storage system, wherein the second content is stored in a network storage arrangement on the remote storage system (see [0028]; [0030]; and [0031]); and terminating transmission of the second content, in response to identifying the first content is identical to the second content (see [0033] and [0034]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than

accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 20, Brunk/Fostick discloses the method of claim 19 wherein the step of computing the signature of the first further comprises the steps of:

identifying a set of protocol markers [DC coefficients] associated with the content (Brunk: see [0031]); and

generating the signature from the identified set of protocol markers (Brunk: see [0031]).

Referring to claim 34, Brunk discloses a network caching device adapted to utilize a signature associated with a protocol for caching decisions, the network caching device comprising:

means for determining a protocol of a new content (see [0062] and [0063]);

means for computing [calculated] a signature of the new content, wherein the signature of the new content is a set of protocol markers that are generated from transformation during protocol encoding [compressed, transformed] (see [0031]); and

means for comparing [a database query is executed to match signatures] the computed signature of the new content with signatures of other contents by comparing the set of protocol markers within the signature of the new content with the protocol markers of the other data contents (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of wherein the new content is stored one or more storage devices connected to a remote storage

system that stores data in a network storage arrangement; a cache that is located on the local storage system; means for determining the signature of the new content is not identical to signatures of contents; and means for storing the new content to the cache, in response to determining the signature of the new content is not identical to the signatures of other contents. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of wherein the new content is stored one or more storage devices connected to a remote storage system that stores data in a network storage arrangement (see [0030] and [0031]); a cache[local cache 50] that is located on the local storage system (see [0027]); means for determining the signature [reference] of the new content is not identical to signatures of contents (see [0028]); and means for storing the new content to the cache, in response to determining the signature of the new content is not identical to the signatures of other contents (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 35, Brunk/Fostick discloses the network caching device of claim 34 wherein the means for computing a signature further comprises:

means for identifying the set of markers associated with the protocol associated with the new content (Brunk: see [0026]); and

means for obtaining appropriate markers associated with the content (Brunk: see [0026]).

Referring to claim 36, Brunk discloses a method, comprising:

identifying a protocol encoding of the first content and the second content;

identifying a first signature of the first content and second signature of the second content, wherein each signature contains one or more protocol markers identifying the content, where the one or more protocol markers are generated from one or more transformations of each content during protocol encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] one or more protocol markers within the first signature and the second signature to determine whether the first content is identical to the second content [a database query is executed to match signatures] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing the first content in a cache on a local storage system; transmitting a second signature of a second content followed by the second content from a remote storage system to the local storage system, wherein the second content is stored in a network storage arrangement on the remote storage system; and terminating transmission of the second content from the remote storage system, in response to determining the protocol markers of the first content and the second content are identical. Fostick discloses the

transferring and caching of multimedia content (see abstract), of storing the first content [new multimedia content] in a cache on a local storage system [local cache 50]; transmitting a second signature of a second content followed by the second content from a remote storage system to the local storage system, wherein the second content is stored in a network storage arrangement on the remote storage system (see [0028]; [0030]; and [0031]); and terminating transmission of the second content from the remote storage system, in response to determining the protocol markers of the first content and the second content are identical (see [0033] and [0034]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 37, Brunk/Fostick discloses the method of claim 36, further comprising:

computing the first signature of the first content as the first content is converted from raw data to the protocol (Brunk: see [0031]); and

computing the second signature of the second content as the second content is converted from raw data to the protocol (Brunk: see [0031]).

Referring to claim 38, Brunk/Fostick discloses the method of claim 36, further comprising: continuing transmission of the second content, if the first content and the second content are not identical (Fostick: see [0033], lines 11-16).

Referring to claim 47, Brunk discloses a method, comprising:

wherein the first file has a first signature with a first set of protocol markers that are generated from transformation during protocol encoding [compressed, transformed] (see [0031]);

computing a signature of the second file, wherein the second signature has a second set of protocol markers that are generated from transformation during protocol encoding [compressed, transformed] (see [0031]);

identifying a protocol type of the second file (see [0062] and [0063]);

comparing [a database query is executed to match signatures] the first set of protocol markers to the second set of protocol markers (see [0083]); and

determining if the first set of protocol markers match the second set of protocol markers [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing a first file in a cache on a local storage system; transmitting the signature of the second file followed by the second file from a remote storage system to the local storage system, wherein the second file is stored in a network storage arrangement on the remote storage system; in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the second file from the remote storage system to the cache on the local storage system; and in response to

determining the first set of protocol markers do not match the second set of protocol markers, storing the second file in the cache. Fostick discloses the transferring and caching of multimedia content (see abstract), of storing the first file [new multimedia content] in a cache on a local storage system [local cache 50]; transmitting the signature of the second file followed by the second file from a remote storage system to the local storage system, wherein the second file is stored in a network storage arrangement on the remote storage system (see [0028]; [0030]; and [0031]); in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the second file from the remote storage system to the cache on the local storage system (see [0033], lines 11-16 and [0034]); and in response to determining the first set of protocol markers do not match the second set of protocol markers, storing the second file in the cache (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

Referring to claim 48, Brunk/Fostick discloses the method of claim 47, further comprising: in response to determining the first set of protocol markers do not match the

second set of protocol markers, flushing the first content from the cache (Fostick: see [0033], lines 11-16).

Referring to claim 49, Brunk discloses a system, comprising:

the first file has a first signature with a first set of protocol markers that are generated from transformation during protocol encoding (see [0031]);

the second file has a second signature with a second set of protocol makers that are generated from transformation during protocol encoding (see [0031]); and

a content comparator, the content comparator configured to identify a protocol type of the second file, to compare the first set of protocol markers to the second set of protocol markers, to determine the first set of protocol markers match the second set of protocol markers (see [0083]).

Brunk fails to explicitly disclose the further limitations of a local storage system with a cache, the cache configured to store a first file; a remote storage system configured to store a second file on one or more storage devices connected to the remote storage system in a network area storage arrangement, a network adapter on the local storage system to send a request for the second file to determine if an updated copy of the first file is available; a second network adapter on the remote storage system to transmit a second file to the local storage system; and a content comparator within the local storage system that in response to determining the first set of protocol markers match the second set of protocol markers, to terminate transmission of the second file to the cache, and in response to determining the first set of protocol markers do not match the second set of protocol markers, to store the second file in the cache

and flush the first file from the cache. Fostick discloses the transferring and caching of multimedia content (see abstract), including the further limitations of a local storage system with a cache [local cache 50], the cache configured to store a first file [new multimedia content]; a remote storage system configured to store a second file on one or more storage devices connected to the remote storage system in a network area storage arrangement (see [0031]), a network adapter on the local storage system to send a request for the second file to determine if an updated copy of the first file is available; a second network adapter on the remote storage system to transmit a second file to the local storage system; and a content comparator within the local storage system (see [0028]) that in response to determining the first set of protocol markers [reference] match the second set of protocol markers, to terminate transmission of the second file to the cache (see [0033], lines 11-16), and in response to determining the first set of protocol markers do not match the second set of protocol markers, to store the second file in the cache and flush the first file from the cache (see [0033], lines 1-5).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once as disclosed by Fostick. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since the elimination of redundant transfers improves the efficiency of multimedia content transfers (Fostick: see [0034]).

16. Claims 4-9, 14-18, 21-23 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al in view of US PGPub 2004/0063449 to Fostick as applied to claims 1, 11, 19, 20 and 36 respectively above, and further in view of US Patent No 5,870,754 to Dimitrova et al (hereafter Dimitrova).

Referring to claim 4, Dimitrova discloses computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Fostick. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Fostick.

Referring to claim 5, the combination of Brunk/Fostick and Dimitrova (hereafter Brunk/Fostick/Dimitrova) discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 6, Brunk/Fostick/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 7, Brunk/Fostick/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 8, Brunk/Fostick/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 9, Brunk/Fostick/Dimitrova discloses the method of claim 4 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Referring to claim 13, Dimitrova discloses computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Fostick. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Fostick.

Referring to claim 14, Brunk/Fostick/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 15, Brunk/Fostick/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 16, Brunk/Fostick/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 17, Brunk/Fostick/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 18, Brunk/Fostick/Dimitrova discloses the apparatus of claim 13 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Referring to claim 21, Brunk/Fostick/Dimitrova discloses the method of claim 20 wherein the set of protocol markers further comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 22, Brunk/Fostick/Dimitrova discloses the method of claim 20 wherein the set of protocol markers further comprises one or more motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 23, Brunk/Fostick/Dimitrova discloses the method of claim 19 wherein a size [size of video clip in bytes and time length of video clip] of the received content [video clip] is utilized in creating the signature (Dimitrova: see column 9, lines 44-50).

Referring to claim 39, Brunk/Fostick/Dimitrova discloses the method of claim 36 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 40, Brunk/Fostick/Dimitrova discloses the method of claim 36 wherein the one or more protocol markers associated with the second content [query

video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 41, Brunk/Fostick/Dimitrova discloses the method of claim 36 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 42, Brunk/Fostick/Dimitrova discloses the method of claim 36 wherein the one or more protocol markers associated with the second content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 43, Brunk/Fostick/Dimitrova discloses the method of claim 36 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Response to Arguments

17. Applicant's arguments with respect to the newly added claim limitations of “a cache on a local storage system” and "requesting a second content from the remote storage system, wherein the second content is stored in a network storage arrangement on the remote storage system" have been considered but are moot in view of the new ground(s) of rejection.

18. Applicant's arguments filed on page 15 of the Remarks in regards to the prior art rejections have been fully considered but they are not persuasive.

On page 15 of the Remarks, the Applicant's argue the following: "Furthermore, the content signature is not derived from protocol encoding but a hash function that requires a separate calculation then transformation of data during protocol encoding."

The examiner respectfully disagrees. According to [0031] of Brunk, a hash function is just one method of generating a signature. The other ways of generating signatures are compression and transformation which are considered to encompass protocol encoding.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent 7,240,091 to Hopmann et al titled "Method and System for Supporting Off-Line Mode of Operation and Synchronization"

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY LOVEL whose telephone number is (571)272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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